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On *Ecitocobius*, a new genus from Central Amazonia with comments on the tribe Attacobiini

(Arachnida, Araneae, Corinnidae, Corinninae)

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Ecitocobius, gen. nov. is proposed for *E. comissator*, spec. nov., from Central Amazonia, Brazil. A new record and additional illustrations of *Attacobius attarum* (Roewer) are given. *A. verhaaghi* , spec. nov. from Ceará State, Brazil is described. The tribe Attacobiini and the genus *Attacobius* are rediagnosed on the base of putative derived characters.

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Introduction

Recently, knowledge of the family Corinnidae was increased by Platnick & Baptista (1995) who transferred the tribe Attacobiini from Liocranidae to Corinninae. This tribe, comprising only the type genus *Attacobius* Mello-Leitão, was characterized by the large anterior median eyes, recurved anterior eye row, absence of serrula, reduced leg spination and darkened and laterally compressed tips of the tarsi.

In this paper we propose a second genus of Attacobiini, *Ecitocobius* which includes the first known two-eyed representative of the family Corinnidae, an odd spider found running in a column of the army ant *Eciton burchelli* (Westwood). The discovery of this new genus which seems to be the sister group of *Attacobius*, permits testing the synapomorphies of the tribe. The reduced leg spination and the absence of a serrula seem to be derived characters for Attacobiini. As *Ecitocobius* has only the anterior median eyes, the eye row shape remains untestable. However, two other characters can be considered as putative synapomorphies for the tribe: labium much wider than long (first observed by Mello- Leitão 1923) and the male palp with a long, thin retrolateral process, medially embedded in the tegulum, here called attacobiine tegular process.

The laterally compressed tips of the tarsi seem to be exclusive to *Attacobius* species and this character is herein considered an apomorphy of that genus. The bipartite anterior median eye pattern described by Platnick & Baptista (1995) for *Attacobius* is absent in *Ecitocobius*. Since this pattern is easily observed in fresh material (specimens of *A. attarum* recently collected) as well as in poorly preserved specimens (as in the types of *A. luederwaldti* (Mello-Leitão)), the absence of this feature in *Ecitocobius* is unequivocal. Thus, assuming the similar structure present in the liocranid genus *Andromma* Simon as homoplastious, the demarcation in each anterior median eye can be considered as another apomorphy of *Attacobius*.

In addition to a rounded retrolateral cymbial tubercle which is usual among corinnines, the palp of the unique male of *Attacobius* hitherto known (*A. attarum*) has a large, excavated, retrolaterally directed cymbial projection (Figs 12, 13; Platnick & Baptista 1995, figs 16, 17). This character could be an autapomorphy of *A. attarum* or another apomorphy of *Attacobius*, as *Ecitocobius* has only the retrolateral cymbial tubercle. Also described here is a new species of *Attacobius*, which extends the range of the genus to Ceará state, north-east Brazil. This species has laterally compressed but not darkened leg tarsi and median eyes of similar size.

Until other species of *Ecitocobius* can be found, two synapomorphies are hypothesized for this genus: the loss of the anterior lateral and posterior eyes, and leg metatarsi with a ventral, apical unpaired curved spine.

The specimens examined belong to the following institutions: MCN, Museu de Ciências Naturais, Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre (E. H. Buckup); IBSP, Instituto Butantan, São Paulo (A. D. Brescovit); SMF, Forschungsinstitut Senckenberg, Frankfurt (M. Grasshoff); SMNK, Staatliches Museum für Naturkunde, Karlsruhe (H. Höfer). All measurements are in millimeters. The format of the descriptions and abbreviations follow those used in Bonaldo & Brescovit (1994).

Ecitocobius, gen. nov.

Type species. *Ecitocobius comissator*, spec. nov.

Diagnosis. *Ecitocobius* can be distinguished from *Attacobius* by at least four characters, two of which are presumably synapomorphies: the absence of anterior lateral and posterior eyes (Fig. 7) and the presence of a ventral, apical unpaired curved spine on all leg metatarsi (Fig. 1). Additional key characters are the absence of any distinctive pattern in the anterior median eyes and the unmodified leg tarsi.

Description

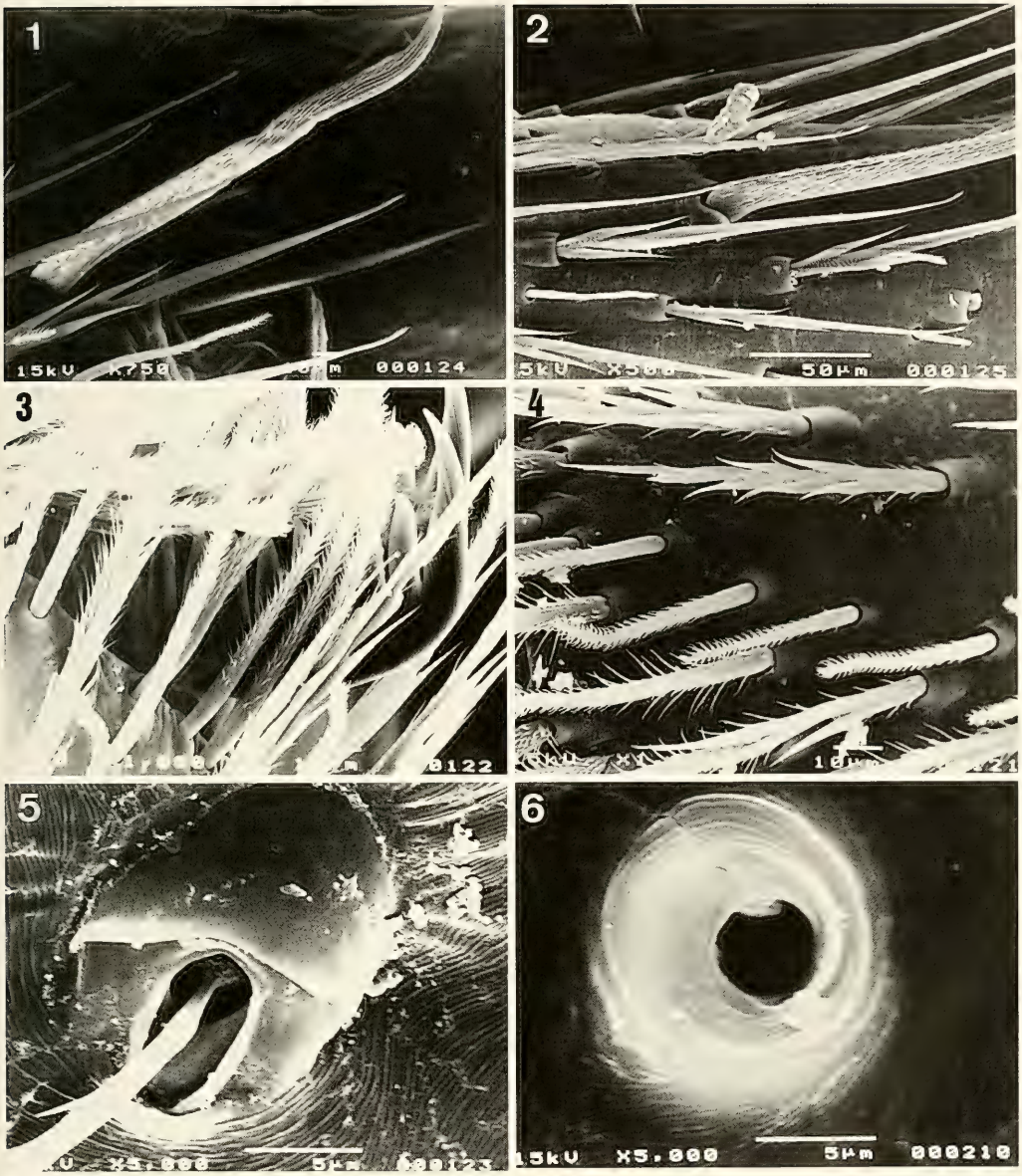
Carapace piriform in dorsal view, widest at coxae II (Fig. 7); arched in lateral view, highest at palpal insertion, declining anteriorly and posteriorly (Fig. 8). Cephalic area not delimited by notable narrowing, anterior margin truncate. Thoracic groove long. Clypeal height slightly greater than anterior median eye diameter. Anterior median eyes on common tubercle, frontal, circular, small, without bipartite pattern; anterior lateral, posterior median and lateral eyes absent. Chilum entire, not setose. Chelicerae slightly shorter than half of carapace length, without lateral boss, with retrolateral, proximal field of setae; one large prolateral tooth with one denticle on each side situated near tip of fang furrow; two small, subequal, retrolateral teeth at middle of fang furrow. Endites convergent, without serrula, promargin rounded, retromargin not excavated. Labium wider than long, slightly constricted proximally, smaller than half of endite length. Sternum convex, slightly wider than long, rebordered. Precoxal triangles present (Fig. 9).

Leg formula 4 1 2 3. Legs long, thin, covered by modified stiff feathery setae and simple hairs (Figs 1, 2, 4); tarsi and metatarsi with thin scopula; distal cluster of ventral setae on metatarsi III and IV hardly notable; all metatarsi with unpaired, curved, ventral, distal, pilose spine (Fig. 1). Leg tarsi with two pectinate claws, distinct onychium and dense claw tufts (Fig. 3), slightly expanded medially, tip not compressed laterally. Trichobothria present on tibiae, metatarsi and tarsi; trichobothrial bases bearing few transversal ridges and one curved ridge, traversing lowered plate (Fig. 5). Tarsal organ capsulate, with large circular aperture (Fig. 6). Trochanters not notched.

Abdomen suboval, constricted anteriorly (Fig. 7), covered by few long setae; dorsal scutum and tracheal tubercle absent. Colulus triangular, small, haired. Six spinnerets; anterior lateral spinnerets slightly convergent and conical, contiguous at base, two-segmented, distal segment short, truncate; posterior median spinnerets small, parallel, tubular, contiguous, one-segmented; posterior lateral spinnerets parallel, separated by less than their diameter, two-segmented, distal segment short, truncate. Anal tubercle inconspicuous.

Male palp with large bipartite retrolateral tibial apophysis; tegulum with typical corinnine coiled duct and hyaline conductor. Attacobiini tegular process present (Figs 10, 11).

Etymology. *Ecitocobius* is a contraction of *Eciton* and *Attacobius* and is masculine in gender.



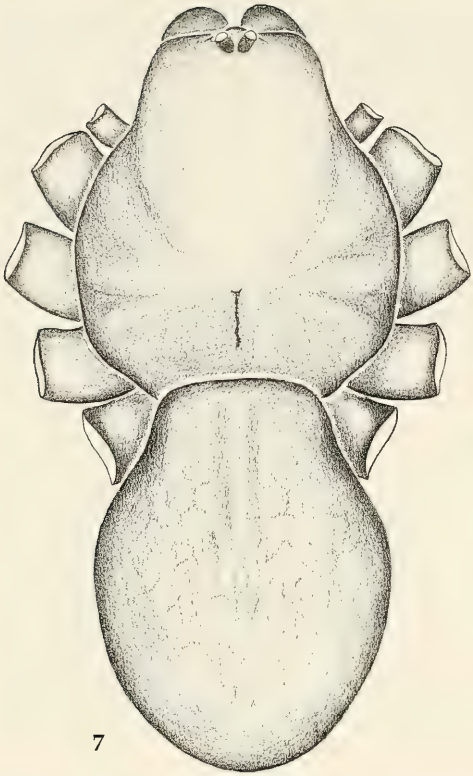
Figs 1-6. *Ecitocobius comissator*, spec. nov. ♂, leg I. **1, 2.** Metatarsus, lateral view. **3.** Apex of tarsus, lateral view. **4.** Tarsus, subventral view. **5.** Tarsal trichobothrium, dorsal view. **6.** Tarsal organ, dorsal view.

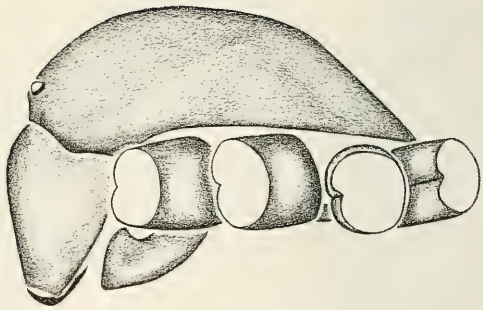
Ecitocobius comissator, spec. nov.

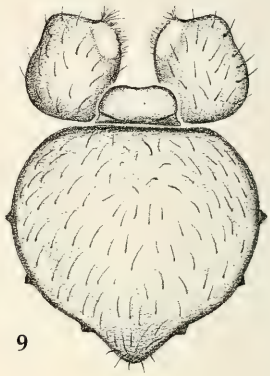
Figs 1-11

Types. Holotype: ♂, Reserva Florestal Adolpho Ducke, Manaus, Amazonas, Brazil, May 31, 1993, H. Höfer col. (MCN 26589).

Diagnosis. With the characters of the genus and male palp as in figs 10, 11.







Figs 7-9. *Ecitocobius comissator*, spec. nov. ♂. **7.** Body, dorsal view. **8.** Cephalothorax, lateral view. **9.** Sternum, labium and endites, ventral view. Scale lines: 0.25 mm.

Description

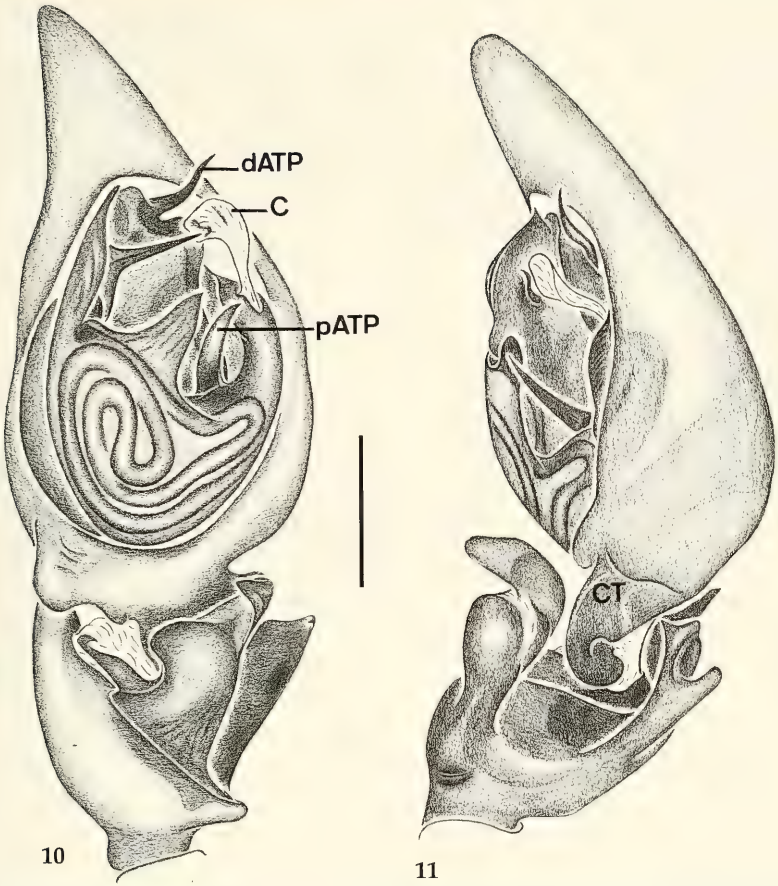
♂ (holotype). Carapace yellow, cephalic area orange; chelicerae orange; endites yellow with white apices; labium yellow; sternum yellow with orange borders; legs yellow, gradually shading to orange distally; abdomen white, spinnerets yellow.

Total length: 2.80. Carapace: 1.80 long, 1.20 wide, 0.57 high. Clypeus: 0.07 high. AME diameter: 0.07; AME-AME interdistance: 0.06; front width: 0.15. Chelicerae: 0.57 long, with 3 promarginal teeth and 2 retromarginal denticles. Sternum: 0.82 long, 0.87 wide. Abdomen: 1.50 long, 1.05 wide.

Leg measurements: I: femur 1.30, patella 0.50, tibia 1.10, metatarsus 1.15, tarsus 0.85, total 4.90. II: 1.25, 0.50, 1.00, 1.10, 0.80, 4.65. III: 1.20, 0.45, 0.90, 1.20, 0.80, 4.55. IV: 1.30, 0.45, 1.15, 1.50, 1.00, 5.40. Leg spination: I: femur d1-0-0, p0, r0, v0; tibia d0, p0, r0, v1p-2-2; metatarsus d0, p0, r0, v2-2-1. II: femur d1-0-0, p0, r0, v0; tibia d0, p0, r0, v0-2-0; metatarsus d0, p0, r0, v2-2-1. III: femur d1-0-0, p0, r0, v0; tibia d0, p0-0-1, r0-0-1, v0; metatarsus d0, p0, r0, v0-2-1. IV: femur d1-0-0, p0, r0, v0; tibia d0, p0, r0-0-1; v0-1p-0; metatarsus d0, p0, r0, v2-2-1.

Palpus. Femur and patella unmodified, tibia with basal, retrolateral projection and large bipartite retrolateral apophysis; ventral extension large, bifid at base, with small prolateral prong with tip curved retrolaterally and large retrolateral prong with tip curved prolaterally; dorsal extension bifid distally. Cymbium with basal, relatively short retrolateral tubercle. Tegulum with ventral, basal coiled duct and large median triangular, laminar extension projecting retrolaterally over deep excavation. Attacobiine tegular process long, medially embedded in tegulum, with proximal end (pATP, fig. 10) parallel to tegular laminar projection and distal end (dATP, fig. 10) directed retrolaterally. Unmodified hyaline conductor (C, fig. 10) with subapical, retrolateral insertion. Embolus pointed, straight, subapical spur with prolateral insertion, directed retrolaterally (Figs 10, 11).

♀. Unknown.



Figs 10, 11. *Ecitocobius comissator*, spec. nov. ♂. **10.** Palp, ventral view. **11.** Palp, retrolateral view. Scale lines: 0.25 mm. Abbreviations: C: conductor; CT: cymbial tubercle; dATP: distal end of attacobiine tegular process; pATP: proximal end of attacobiine tegular process.

Distribution. Known only from type locality.

Material examined. Only the holotype.

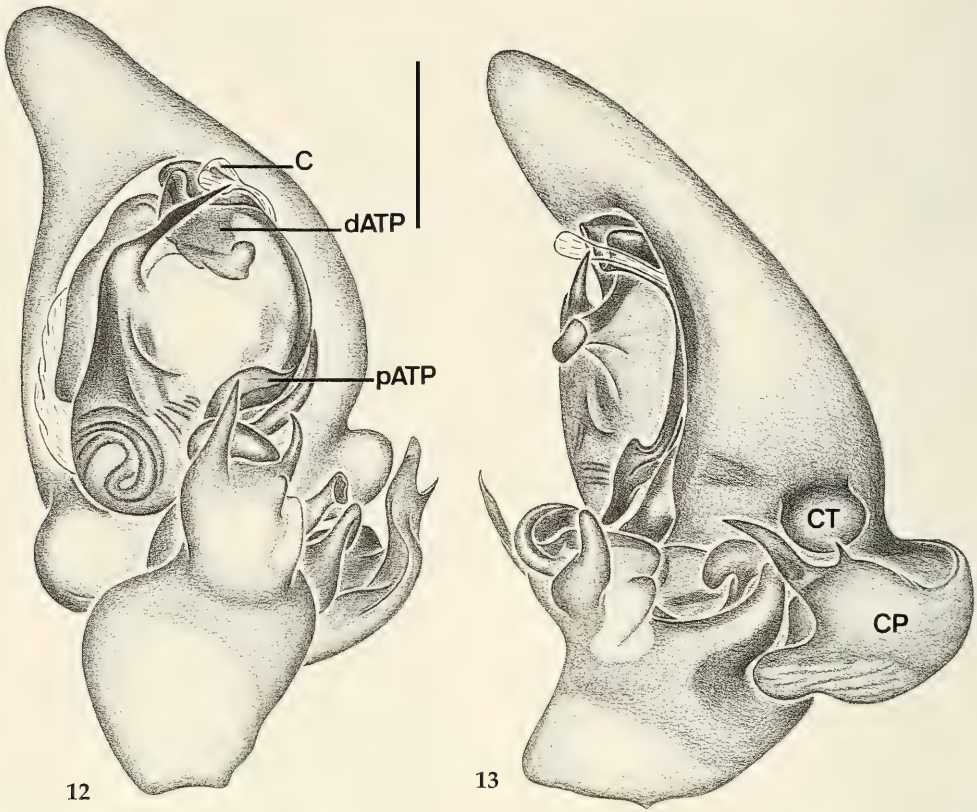
Etymology. A latin substantive, *comissator* means the companion, in allusion to the association of this spider with ants.

Natural History. The holotype was collected during the day running in a column of the nomad army ant *Eciton burchelli* which are aggressive spider predators (see Viera & Höfer 1994 for information on the ecology of this ant and its spider prey in Central Amazonia). *Ecitocobius comissator* is apparently tolerated by the ants but the amazing riding behavior described for some *Attacobius* species was not observed (Dr. H. Höfer, pers. comm.).

Attacobius attarum (Roewer)

Figs 12, 13

Myrmeques attarum Roewer, 1935: 194, figs 1a-d, 2a-d (one ♂ and three ♀♀ syntypes, Mendes, Rio de Janeiro, Brazil, SMF, Roewer Collection n° 4924, examined).
Attacobius attarum, Platnick 1993: 602; Platnick & Baptista 1995: 8.



Figs 12, 13. *Attacobius attarum* (Roewer). ♂. **12.** Palp, ventral view. **13.** Palp, retrolateral view. Scale lines: 0.25 mm. Abbreviations: C: conductor; CP: cymbial process; CT: cymbial tubercle; dATP: distal end of attacobiine tegular process; pATP: proximal end of attacobiine tegular process.

Note. This species was redescribed by Platnick & Baptista (1995). Unfortunately, the conductor did not appears in their illustrations of the ♂ palp, although being as referred to in the text as "translucent flange of bifid conductor". We provide supplementary illustrations (Figs 12, 13). The palp of *A. attarum* has an unmodified hyaline conductor (C, fig. 12), with its insertion covered by the tegular edge and the large attacobiine tegular process, medially embedded at the edge of the tegulum, with complex distal end (dATP, fig. 12) and free, enlarged proximal end (pATP, fig. 12). The distal end has folded apices (called "median arm of bifid conductor" by those authors) and a broad, flat extension (called "median apophysis"), ending in a protruded hook-like piece. The median part and the proximal end of the tegular process were called the "lateral arm of bifid conductor".

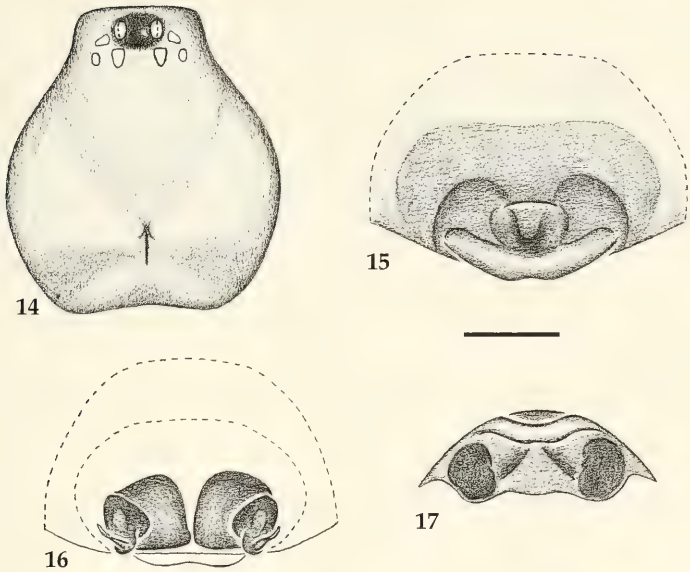
New Record. BRAZIL, Rio de Janeiro: Campos, 2♀♀, 2 immat., V.1995, A. Tonhasca Jr. Col. (IBSP 6924, MCN 27664). Clinging to the head of the ant *Atta sexdens rubropilosa* (Forel).

Attacobius verhaaghi, spec. nov.

Figs 14-17

Types. Holotype: ♀, Chapada do Araripe (10 km from Crato) 39°30'W, 07°10'S (850m el.), Ceará state, Brazil, 30.I.1995, M. Verhaagh & D. Frey col. (MCN 26589). – Paratype: 1♀, with the same data as holotype (SMNK).

Diagnosis. *A. verhaaghi* can be easily distinguished by the dark oval spot on anterior median eye area and by the epigynum with large, quadrangular spermathecae (Figs 14, 16).



Figs 14-17. *Attacobius verhaaghi*, spec. nov. ♀. **14.** Carapace, dorsal view. **15.** Epigynum, ventral view. **16.** Epigynum, dorsal view. **17.** Epigynum, posterior view. Scale lines: 0.25 mm.

Description.
♀ (holotype). Carapace yellow, with black spot on anterior median eye area; mouth parts yellow; sternum yellow with brown borders; legs and abdomen yellow.

Total length: 3.85. Carapace: 1.65 long, 1.50 wide, 0.47 high. Clypeus: 0.13 high. Eye diameter and interdistances: AME 0.10, ALE 0.10, PME 0.08, PLE 0.06; AME-AME 0.08, AME-ALE 0.03, PME-PME 0.15, PME-PLE 0.07, ALE-PLE 0.02; MOQ length: 0.25, front width: 0.27, back width: 0.31. Chelicerae: 0.69 long, with 2 promarginal teeth and 2 retromarginal denticles. Sternum: 1.01 long, 1.06 wide. Abdomen: 2.25 long, 1.45 wide.

Leg measurements: I: femur 1.50, patella 0.60, tibia 1.30, metatarsus 1.35, tarsus 1.05, total 5.80. II: 1.45. 0.50, 1.20, 1.30, 1.05, 5.50. III: 1.35, 0.50, 1.10, 1.25, 1.05, 5.25. IV: 1.60, 0.50, 1.40, 1.55, 1.10, 6.15. Leg spination: I: femur d1-1-0, p0, r0, v0; tibia d0, p0, r0, v2-2-2; metatarsus d0, p0, r0, v2-1r-0. II: femur d1-1-0, p0, r0, v0; tibia d0, p0, r0, v2-2-2; metatarsus d0, p0, r0, v2-2-0. III: femur d1-1-0, p0, r0, v0; tibia d0, p0, r0 v0; metatarsus d0, p0, r0, v0. IV: femur d1-1-0, p0, r0, v0; tibia d0, p0, r0, v0; metatarsus do, p0, r0, v0.

Epigynum. Composed of large sclerotized plate with depressed median U-shaped area. Internally with large, quadrangular spermathecae (Figs 15-17).

♂. Unknown.

Variation. Paratype: total length 4.10; carapace 1.67; femora I 1.52.

Distribution. Known only from type locality.

Material examined. Only the types.

Etymology. The specific name is a patronym in honor of one of the collectors of the types.

Natural history. The specimens were collected in the wet semiperennial forest at Araripe National Forest. No special relation with ants was observed by the collectors.

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